

ABSTRACT OF THE DISCLOSURE

An apparatus for real-time measurement of mass, size and number of solid particles of particulate matter in engine exhaust has a catalytic stripper to remove at least about 90% of a volatile fraction of the particulate matter and pass at least about 95% of a solid fraction of the particulate matter, and a micro-dilution tunnel to cool the test medium after passing through the catalytic stripper and prior to passing through a particle sizer and counter system. A method embodying the present invention includes removing a volatile fraction of the particulate matter carried in a sample test stream and comparing the sample after removal of the volatile fraction with a second sample in which the volatile fraction has not been removed. The difference between the two samples represents liquid phase of the volatile fraction of the tested exhaust gas.